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FOOD AND DRUGS LABORATORY

LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 405

GRAPE JUICE

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NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

A. McGILL,
Chief Analyst.

LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 405

GRAPE JUICE

OTTAWA, June 15, 1918.

GEO. W. TAYLOR, Esq.,
Asst. Deputy Minister of Inland Revenue.

SIR,—I have the honour to submit a report upon Unfermented Grape Juice. This report comprises 102 samples, purchased throughout Canada by our inspectors in January, February and March of the present year.

Grape juice is legally defined as follows, by Order in Council of February 8, 1911 (G. 947).

> 3. Grape juice, grape must, is the fresh fruit juices obtained from grapes (Vitis species), has a specific gravity (20° C.) not less than 1·0400 and not exceeding 1·1240; and contains in one hundred (100) cubic centimeters (20° C.) not less than seven (7) grammes nor more than twenty-eight (28) grammes of total sugars, in terms of reducing sugars, not less than twenty (20) centigrammes and not more than fifty-five (55) centigrammes of grape ash, and not less than fifteen (15) milligrammes nor more than seventy (70) milligrammes of phosphoric acid (P_2O_5).

This article was first made the subject of examination in these laboratories in November 1902, and the results of work upon 18 samples are published in Bulletin No. 82. Three of these samples were found to contain above 2 per cent of proof spirit, and 7 samples contained salicylic acid, added as to prevent fermentation. The use of a preservative for this purpose has generally been discontinued in recent years, sterilization of the juice having been found practicable and satisfactory.

Seventy (70) samples of grape juice are reported in Bulletin No. 166 (December 1908). Fourteen (14) of these contained salicylic acid, and most of these contained decided amounts of alcohol, indicating that this preservative had been added to the already fermenting juice to stay further fermentation, rather than as a means of preventing incipient fermentation in the fresh juice.

The results of work upon 111 samples are reported in Bulletin No. 307 (March 1915) and showed that much greater attention was given to the manufacture of the article, as regards freedom from more than traces of alcohol, and preservation by sterilization alone, without addition of preservatives. Only two samples were found to contain a chemical preservative (benzoic acid).

In the present collection no preservatives are reported, and manufacturers appear to have entirely discarded their use.

Twenty-one (21) different makes are represented in this report, most of them by several samples. Of the whole number (102), 97 samples completely meet the requirements of Departmental standards, and must be recognized as genuine. One sample (76279) is sold as a grape syrup, implying the addition of sugar (40·7 per cent). Another sample (68567) is probably watered, as indicated by the abnormally low ash content.

Three samples (70415, 8021 and 8022) are artificial products, and being offered as grape juice must be regarded as adulterated.

The sales of this article appear to have largely increased in recent years, and this may be partly due to the fact of Provincial legislation which has interfered with the sale of alcoholic beverages. There can be no doubt that grape juice, if properly made and preserved by sterilization, constitutes a wholesome and desirable beverage, and one which the public appreciates.

I beg to recommend publication of this report as Bulletin No. 405.

I have the honour to be, Sir,
Your obedient servant,

A. McGILL,
Chief Analyst.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor. Manufacturer.	Furnisher.
			DISTRICT OF NOVA SCOTIA—				
1918.							
Feb. 28	Grape Juice ..	83331	R. T. Caldwell, Kentville, N.S.	3 bots.	30	Welch Co., St. Catharines, Ont.	Unknown ....
Mar. 1	" ..	83332	C. A. Ryan, Windsor, N.S.	3 "	75	Puritan Food Products Co., New York.	" ....
" 13	" ..	83333	Nat. Drug & Chem. Co., Halifax, N.S.	3 "	70	Welch Co., St. Catherines, Ont.	Manufacturers
" 14	" ..	83334	Dillon Bros., Halifax, N.S.	3 "	75	Libby, McNeill & Libby, Chatham, Ont.	"
" 1	Unfermented Grape Juice.	78437	D. C. Mackay, New Glasgow, N.S.	3 "	1.35	Welch Co., Ltd., St. Catharines, Ont.	R. McGregor & Sons, New Glasgow, N.S.
			DISTRICT OF NEW BRUNSWICK—				
Jan. 21	Unfermented Grape Juice.	78262	W. A. Simonds, St. John, N.B.	3 bots.	90	E. D. Smith, Winona, Ont.	.....
" 21	" " ..	78263	Walter Gilbert, St. John, N.B.	3 "	30	The Randall Grape Juice Co., Ltd., Jordan, Ont.	.....
" 22	" ..	78264	R. W. Hawker, St. John, N.B.	3 "	90	The Welch Co., Ltd., St. Catharines, Ont.	.....
" 23	" ..	78265	Baird & Peters, St. John, N.B.	3 "	69	Puritan Products Co., Ltd., Fredonia, N.Y.	.....
Feb. 21	" ..	78267	W. H. Golden, Fredericton, N.B.	3 "	75	" " "	.....
			DISTRICT OF QUEBEC CITY—				
Jan. 16	Grape Juice ..	70412	L. H. Langlois, 25 Couillard St., Quebec.	1 pt	30	The Welch Co. Ltd., St. Catharines, Ont.	.....
" 16	" ..	70413	George Patry, 22 Fabrique, Quebec.	1 "	25	Marsh Grape Juice, Niagara Falls.	.....
" 16	" ..	70414	J. E. Livernois, Quebec..	1 "	25	Randall's Grape Juice, Ont.	.....
" 16	" ..	70415	Joseph Savard, 35 St. John St., Quebec.	1 "	25	Elzear Fortier Co., Quebec.	.....
" 16	" ..	70417	Alphonse Coté, 381 St. Jean, Quebec.	1 "	30	Ont. Grape Growing Wine Co.	.....
" 16	" ..	70418	" " "	1 "	30	E. D. Smith, Helderleigh, Ont.	.....
" 17	" ..	70419	Elzear Turcotte, 74 des Fosses, Quebec.	1 "	25	Wagstaffe, Hamilton, Ont.	.....
" 21	" ..	70439	F. C. Lachevrotiere, 224 rue St. Jean, Quebec.	1 "	35	Puritan Food Products.	Lymans, Ltd., Montreal.
" 21	" ..	70440	Martel & Dion, 105 rue St. Joseph.	½ "	15	United Drug Co., Ltd., Toronto.	.....
" 21	Jus. de Raisin.	70441	Arthur Drolet, 712 St. Valier, Quebec.	1 litre.	1.25	Arles (B = du = R), France.	Rioux & Pettigrew, Quebec.

GRAPE JUICE.

Brand.	Results of Analysis.								No. of Sample.	Remarks, and Opinion of the Chief Analyst.
	Specific Gravity of Juice at 15·5°C.	Alcohol p.c. by volume.	Grammes per 100 cc.					Phosphoric acid in Ash. Milligrams per 100 grams.		
			Extract.	Invert Sugar.	Cane Sugar.	Acidity as Tartaric.	Ash.			
R. J. WAUGH, INSPECTOR, W. A. PETIPAS, TEMPORARY INSPECTOR.										
Welch's	1·0748	None.	19·44	16·15	None.	0·937	0·232	16	83331	Genuine.
Red Wing	1·0846	"	22·04	18·36	"	0·975	0·246	16	83332	"
Welch's	1·0745	"	19·39	16·10	"	0·900	0·242	18	83333	"
Libby's	1·0703	0·13	18·30	14·35	0·6	1·005	0·4[illegible]	18	83334	"
Welch's	1·0686	None.	17·83	14·23	None.	1·290	0·265	17	78437	"
JOHN C. FERGUSON, INSPECTOR.										
E. D. Smith	1·0804	None.	20·91	17·02	0·36	0·975	0·258	17	78262	Genuine.
Randall's Gold Medal	1·0765	0·10	19·92	16·50	None.	0·892	0·250	21	78263	"
Welch's	1·0837	None.	21·78	18·33	"	1·252	0·266	21	78264	"
Red Wing	1·0854	0·27	22·33	18·56	"	1·005	0·244	22	78265	"
"	1·0849	0·15	22·15	18·93	"	0·990	0·202	20	78267	"
LEON HARDY, ACTING INSPECTOR.										
Welch's	1·0737	None.	19·16	15·73	None.	1·207	0·304	19	70412	Genuine.
Marsh's	1·0824	0·17	21·49	17·83	0·44	1·125	0·230	18	70413	"
Randall's Gold Medal	1·0742	None.	19·29	16·11	None.	0·975	0·236	20	70414	"
Fortier's	1·0991	"	25·80	24·12	0·65	0·305	0·012	None.	70415	Is not grape juice. Adulterated.
Barnes'	1·0855	"	22·25	18·91	None.	1·050	0·252	22	70417	Genuine.
E. D. Smith's	1·0844	"	21·96	18·10	0·58	0·975	0·226	20	70418	"
Wagstaffe's	1·0987	0·13	25·75	22·62	0·21	0·832	0·242	16	70419	"
Red Wing	1·0837	None.	21·80	18·62	None.	0·945	0·246	18	70439	"
Liggetts	1·0840	0·36	21·96	18·54	"	1·102	0·260	21	70440	"
Vin non fermenté	1·0758	0·18	19·76	17·67	"	0·610	0·272	21	70441	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor. Manufacturer.	Furnisher.
DISTRICT OF QUEBEC PROVINCE—							
1918							
Jan. 15	Jus de raisin non fermenté.	5528	Dame D. A. Duclos, St. Jerome.	3 bots.	2.25	The Welsh Co., Ltd	.....
" 22	"	5531	R. Hamilton, Lachute...	3 "	90	.....	.....
DISTRICT OF THREE RIVERS—							
Jan. 19	Red Grape Juice. Unfermented.	8021	Edouard Coutu, St. Félix de Valois.	3 bots.	20	.....	Asselin & Carpentier, St. Félix de Valois.
" 19	Blue Grape Juice. Unfermented.	8022	" "	3 "	20	.....	"
" 24	Grape Juice...	8040	Uldéric Carignan, Three Rivers.	3 "	75	Welsh Co., St. Catherines, Ont.	.....
DISTRICT OF MONTREAL—							
Jan. 28	Grape Juice...	74394	Beauvais, Lalonde & Co., 336, St. James St., Montreal.	3 bots.	90	.....	.....
" 28	" "	74395	Fraser-Viger Co., Ltd., St. James St., Montreal.	3 "	90	.....	.....
" 28	" "	74396	" "	3 "	90	.....	.....
" 28	" "	74397	Almy's Ltd., St. Catherine St., Montreal.	3 "	84	.....	.....
" 30	" "	74388	Goodwins' Ltd., Montreal.	3 "	75	.....	.....
DISTRICT OF EASTERN TOWNSHIPS—							
Jan. 22	Jus Raisin....	7667	Thos. Herbert, St. Hyacinthe.	3 bots.	76	.....	.....
DISTRICT OF OTTAWA—							
Jan. 18	Unfermented Grape Juice.	80524	A. E. Fairbairn, Bank St., Ottawa.	3 bots.	75	The Marsh Grape Juice Co., Niagara Falls.	.....
" 18	" "	80526	R. H. Beck, 1150 Bank St., Ottawa.	3 "	90	Libby, McNeill & Libby, Chatham, Ont.	.....
" 19	" "	80527	S. Adams, 97 Bank St., Ottawa.	3 "	75	E. D. Smith, Winona, Ont.	.....

GRAPE JUICE.

Brand.	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Specific Gravity.		Alcohol % by volume.	Grammes per 100 c.c.			Milligrams Phosphoric Acid per 16cc.		
	Of Juice at 20° C.	Of Distillate at 15·6° C.		Extract.	Invert Sugar.	Ash.			
N. CADIEUX, TEMPORARY INSPECTOR.									
Welch's	1·0730	0·9998	0·13	19·00	15·84	0·232	21·3	5528	Genuine.
Red Wing	1·0848	0·9999	0·07	22·07	18·22	0·256	28·8	5531	"
DR. V. P. LAVALLÉE, INSPECTOR.									
Jus de Raisin	1·0338	1·0000	None...	8·50	2·77	0·008	2·4	8021	Is not Grape Juice. Adulterated.
" "	1·0420	1·0000	" ...	10·40	9·71	0·012	4·0	8022	"
Welch's	1·0823	1·0000	" ...	21·38	18·70	0·204	19·6	8040	Genuine.
J. J. COSTIGAN, INSPECTOR.									
Red Wing	1·0864	0·9998	0·13	22·51	18·70	0·248	26·0	74394	Genuine.
Welch's	1·0728	0·9998	0·13	18·90	14·98	0·216	23·2	74395	"
Libby's	1·0669	1·0000	None...	17·35	14·24	0·256	25·6	74396	"
E. D. Smith's	1·0726	1·0000	" ...	18·84	14·88	0·208	25·2	74397	"
Marsh's	1·0798	0·9994	0·40	20·89	19·08	0·236	24·4	74388	"
E. BLONDIN, TEMPORARY INSPECTOR.									
E. D. Smith's	1·1067	1·0000	None...	27·80	24·68	0·224	21·2	7667	Genuine.
J. A. RICKEY, INSPECTOR.									
Marsh's	1·0622	1·0000	None...	16·13	13·18	0·200	24·4	80521	Genuine.
Libby's	1·0724	1·0000	" ...	18·79	15·12	0·256	34·8	80526	"
E. E. Smith's	1·0938	1·0000	" ...	24·41	20·54	0·248	28·0	80527	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor. Manufacturer.	Furnisher.
DISTRICT OF OTTAWA—							
1918.							
Jan. 22	Unfermented Grape Juice.	80528	E. Cousineau, 86 du Pont, Hull.	3 bots.	75	The Welch Co., Ltd., St. Catherines.	.....
" 23	" "	80536	A. S. Moreland, Bank St., Ottawa.	3 "	75	Glassco, Ltd., Hamilton.	.....
" 24	" "	80538	McNally Bros., Lyon & Slater Sts, Ottawa.	3 "	90	Schuhle's Pure Grape Juice Co., Highland. N. Y.	.....
" 26	" "	80548	Bryson-Graham, Ltd., Ottawa.	3 "	1.50	Armour & Co.	.....
" 28	" "	80550	Stratton & Co., Lyon St., Ottawa.	3 "	90	Wagstaffe, Ltd., Hamilton.	.....
Feb 1	" "	80555	Allan & Cochrane, Bank & Gilmour, Ottawa.	3 "	1.50	United Drug Co., Ltd., Toronto.	.....
DISTRICT OF TORONTO—							
Jan. 24	Grape Juice	81110	W. C. Cork, 1146 Yonge St., Toronto.	3 bots.	75	T. G. Bright & Co., Ltd., Niagara Falls.	.....
" 25	"	81111	Swan Bros., 162 King St. E., Toronto.	3 "	90	Armour & Co.	.....
" 25	"	81112	A. Struthers, 144 Queen St. E., Toronto.	3 "	90	Puritan Products Co., Fredonia, N.Y.	.....
" 25	"	81113	Michie & Co., Ltd., 7 King St. W., Toronto.	3 "	75	E. D. Smith, Winona.	.....
" 25	"	81114	The Robt. Simpson Co., Ltd., Queen & Yonge Sts., Toronto.	3 "	75	Marsh Grape Juice Co., Niagara Falls.	.....
" 26	"	81115	The T. Eaton Co., Ltd., Toronto.	3 "	79	Libby, McNeill & Libby, Chatham.	.....
" 26	"	81116	The F. E Karn Co., Ltd., Queen & Victoria Sts., Toronto.	3 "	75	The Welch Grape Juice Co., Westfield, U.S.A.	.....
" 30	"	81117	J. W. Srigly, 633 Logan Ave., Toronto.	3 "	75	The Ont. Grape Growing & Wine Mfg. Co., St. Catharines.	.....
" 30	"	81118	J. W. Nettleton, 84 Queen St. E., Toronto.	3 "	60	Schuhles Pure Grape Juice Co., Highland, N.Y.	.....
" 31	"	81119	J. J. McLaughlin, Ltd., 145 Sherbourne St., Toronto.	3 "	60	Vendors	.....
" 31	"	81142	J. C. Craig, 468 Spadina Ave., Toronto.	3 "	90	Sherriffs, Toronto	.....
Feb. 1	"	81143	The T. Eaton Co., Ltd., Queen & Yonge Sts., Toronto.	3 "	75	Wagstaffe, Ltd., Hamilton.	.....

GRAPE JUICE.

Brand.	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Specific Gravity.		Alcohol % by volume.	Grammes per 100 c.c.			Milligrams Phosphoric Acid per 100 c.c.		
	Of Juice at 20° C.	Of Distillate at 15·6° C.		Extract.	Invert Sugar.	Ash.			
Concluded.									
Welch's	1·0761	1·0000	None	19·76	16·02	0·300	24·8	80528	Genuine.
Glassco's	1·1146	1·0000	"	29·89	25·48	0·312	33·2	80536	"
Schuhle's contains about 3% granulated sugar.	1·0752	0·9998	0·13	19·58	16·54	0·200	21·2	80538	"
Top notch	1·0745	1·0000	None	19·34	16·02	0·240	26·4	80548	"
Wagstaffe	1·0935	0·9996	0·26	24·43	20·34	0·228	18·8	80550	"
Liggett's	1·0726	0·9998	0·13	18·90	16·19	0·304	32·0	80555	"

H. J. DAGER, INSPECTOR.

Niagara	1·0604	0·9989	0·73	15·94	12·54	0·292	30·8	81110	Genuine.
Top Notch	1·0766	1·0000	None.	19·89	17·36	0·204	23·2	81111	"
Red Wing	1·0851	0·9998	0·13	22·17	13·67	0·232	20·0	81112	"
E. D. Smith's	1·0850	0·9999	0·07	22·09	18·08	0·232	29·2	81113	"
Marsh's	1·0719	0·9997	0·20	18·74	15·54	0·216	22·8	81114	"
Libby's	1·0715	0·9996	0·26	18·66	14·24	0·296	31·8	81115	"
Welch's	1·0743	1·0000	None.	19·29	16·02	0·208	26·4	81116	"
Barnes	1·1103	0·9999	0·07	28·78	24·72	0·264	26·8	81117	"
Schuhles	1·0816	0·9998	0·13	21·25	17·26	0·240	21·6	81118	"
McLaughlin's	1·0949	0·9999	0·07	24·72	20·16	0·236	20·4	81119	"
Sherriff's	1·0685	1·0000	None.	17·77	16·30	0·212	19·6	81142	"
Wagstaffe's	1·0916	0·9999	0·07	23·85	20·16	0·248	26·4	81143	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher as given by the Vendor. Furnisher.	Manufacturer.
			DISTRICT OF HAMILTON—				
1918							
Jan. 17	Grape Juice..	81044	The Arcade, James St. N., Hamilton.	3 bots.	75	The Randall Grape Juice Co., Jordan.	... .
" 17	" .	81045	Peebles, Hobson & Co., Ltd., King & McNabb Sts., Hamilton.	3 "	90	Armour & Co....	... ...
" 17	" ..	81046	Jas. Osborne & Son, 12 James St. S. Hamilton.	3 "	90	T. G. Bright & Co., Ltd., Niagara Falls.	.....
" 18	" ..	81047	H. Trebilcock, 301 King St. E., Hamilton.	3 "	75	E. D. Smith, Winona.	... .
" 18	" ..	81048	Orton Dyment, 695 Barton St., Hamilton.	3 "	75	Puritan Produce Co., Fredonia, N.Y.	....
" 21	" ..	81049	Parke & Parke, Market Square, Hamilton.	3 "	45	Schuhles Pure Grape Juice Co., Highland, N.Y.	....
" 21	" ..	81050	Chas. Askew, James & Simcoe Sts., Hamilton.	3 "	75	Ont. Grape Growing & Wine Mfg. Co., St. Catharines.	.. . .
" 22	" ..	81051	H. Grear, 237 King St. E., Hamilton.	3 "	90	Wagstaffe, Ltd., Hamilton	....
" 22	" ..	81052	P. H. Gage, 331 King St. E., Hamilton.	3 "	90	Libb McNeill & Lioby, Chatham.	..... .
" 22	" .	81053	J. J. McQuarrie, 11 King William St., Hamilton.	3 "	90	The Welch Co., Ltd., St. Catharines.	....
" 22	" ..	81100	M. B. Hibbard, Lock & Main Sts., Hamilton.	3 "	75	The Marsh Grape Juice Co., Niagara Falls.	....
			DISTRICT OF WINDSOR—				
Jan. 16	Unfermented Grape Juice.	65383	Saddy Bros., London....	3 bots.	30	Libby, McNeill & Libby, Chatham.	.....
" 16	" .	65385	Wyckoff & Gafeny, London.	"	30	E. D. Smith, Winona.	....
" 17	" .	65387	C. Tallen, 805 Dundas St., London.	"	75	Ont. Grape Growing & Wine Ass'n, St. Catharines.	... .
" 22	Grape Juice ..	81208	S. Bodalats, London	"	30	Puritan Food Product Co., Fredonia, N. Y.	....
" 22	" ..	81209	M. Masuret & Co., London.	"	45	Schuhle's, Highland, N. Y.	....
" 22	" ..	81210	Standard Drug Co., London.	"	75	The Welch Co., Ltd., St. Catharines.	. . ..
Feb. 13	Unfermented Grape Juice.	81224	C. H. Gunn & Co., Chatham, Ont.	"	60	United Drug Co., Toronto.	....
			DISTRICT OF NORTHERN ONTARIO—				
Feb. 7	Grape Juice	79414	A. J. Carson, Haileybury.	3 bots.	90	The Welch Co., St. Catharines.	.....
" 7	" ..	79415	F. C. Preston & Co., Haileybury.	"	75	E. D. Smith, Winona.	....
" 8	" ..	79419	J. K. Battah, Cobalt....	"	75	Puritan Food Products Co., Fredonia, N.Y.	....

GRAPE JUICE.

Brand.	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Specific Gravity.		Alcohol by volume.	Grammes per 100 c.c.			Milligrams Phosphoric Acid per 100 c.c.		
	Of Juice at 20° C.	Of Distillate at 15.6° C.		Extract.	Invert Sugar.	Ash.			
H. J. DAGER, ACTING INSPECTOR.									
Randall's Gold Medal.	1·0659	1·0000	None.	22·33	18·40	0·200	22·0	81044	Genuine.
Top Notch.....	1·0773	1·0000	None.	20·07	16·98	0·200	16·8	81045	"
Niagara	1·0564	0·9979	1·41	15·16	11·68	0·332	28·0	81046	"
E. D. Smith's..... ..	1·0820	1·0000	None.	21·31	17·16	0·232	30·0	81047	"
Red Wing....	1·0853	1·0000	None.	22·17	18·90	0·248	16·0	81048	"
Schuhles contains about 2½ % granulated sugar.	1·0845	0·9998	0·13	22·02	18·40	0·208	23·2	81049	"
Barnes	1·0855	0·9998	0·13	22·28	18·80	0·240	24·4	81050	"
Wagstaffe's, Fruit and Sugar only.	1·1062	0·9998	0·13	27·67	26·28	0·248	22·0	81051	"
Libby's.....	1·0718	0·9998	0·13	18·69	15·16	0·268	34·8	81052	"
Welch's	1·0715	0·9998	0·13	18·61	15·36	0·276	24·0	81053	"
Marsh's	1·0642	1·0000	None.	16·65	14·98	0·232	18·4	81100	"
JOHN TALBOT, INSPECTOR.									
Libby's.....	1·0638	0·9999	0·07	16·55	12·72	0·244	23·6	65383	Genuine.
E. D Smith's.....	1·0875	0·9998	0·13	22·75	18·40	0·248	28·0	65385	"
Barnes	1·0848	0·9999	0·07	22·04	18·60	0·264	26·0	65387	"
Red Wing.....	1·0851	0·9998	0·13	22·17	18·22	0·264	24·8	81208	"
Schuhle's	1·0799	1·0000	None.	20·75	16·98	0·208	20·8	81209	"
Welch's	1·0741	0·9998	0·13	19·29	15·74	0·200	21·2	81210	"
Liggett's...	1·0788	0·9997	0·20	20·55	20·37	0·232	22·4	81224	"
THOS. E. ARMSTRONG, INSPECTOR.									
Welch's....	1·0730	0·9998	0·13	19·00	15·54	0·244	28·4	79414	Genuine.
E. D. Smith's.....	1·0848	1·0000	None.	22·04	18·12	0·260	28·0	79415	.
Red Wing.....	1·0839	1·0000	"	21·80	19·08	0·208	19·2	79419	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher as given by the Vendor. Manufacturer.	Furnisher.
			DISTRICT OF NORTHERN ONTARIO—				
1918.							
Feb. 11	Grape Juice ..	79420	R. P. Graham, Cobalt...	3 bots.	75	The Marsh Grape Juice C., Niagara Falls.	.....
" 11	" ..	79421	Morin & frères, Cobalt..	"	15	Dalton Bros., Toronto.	.....
" 18	" ..	79429	Mrs. J. McCaffray, Haileybury.	"	15	Wagstaffe Ltd.....	.....
			DISTRICT OF MANITOBA—				
Jan. 24	Unfermented Grape Juice.	79701	P. & B. Cash Stores, Evanson & Westminster, Winnipeg.	3 bots.	75	Puritan Food Products Co., Fredonia, N.Y.	.....
" 24	" .	79702	T. Eaton Co., Winnipeg.	"	75	Niagara Falls Wine Co., Niagara Falls.	.....
" 25	" .	79703	J. B. Borrowman, 232 Tache Ave., Winnipeg.	"	90	Welch Co., Ltd., St. Catharines.	.....
" 29	" .	79704	Ruby Confectionery, 937 Portage Ave., Winnipeg.	"	60	E. D. Smith, Winona.	.....
" 30	" .	79705	Jake Weisman, 921 Main St., Winnipeg.	"	75	The Marsh Grace Juice Co., Niagara Falls.	.....
Feb. 1	" .	79706	W. H. Stone Co., 648 Main St., Winnipeg.	"	75	Armour's, Chicago....	.....
" 6	" .	79707	Libby, McNeil & Libby, 214 Princess St., Winnipeg.	"	60	Libby, McNeil & Libby, Chatham....	.....
			DISTRICT OF SASKATCHEWAN—				
Feb. 5	Unfermented Grape Juice.	83004	A. McDonald Co., Ltd.. Moose Jaw.	3 bots.	70	The Welch Co., Ltd., St. Catherines.	Mfrs. .....
" 6	" ..	83006	Codville Co., Ltd., Moose Jaw.	3 "	75	E. D. Smith, Winona, Ont.	" .....
" 6	" ..	83007	Macdonald, Crawford Ltd., Moose Jaw.	3 "	59	Puritan Food Products Co., Fredonia, N.Y.	.....
Jan. 24	Grape Juice ..	81811	E. Shabaz, North Battleford.	3 "	45	" "	.....
" 24	" ..	81812	B. Bourgan, North Battleford.	3 "	45	Welch Co., Ltd.. St. Catherines.	.....
Feb. 6	" ..	81828	Princess Confectionery, Saskatoon.	3 "	45	" "	.....
			DISTRICT OF ALBERTA—				
Jan. 21	Grape Juice Unfermented.	52888	John Irwin Co., Ltd., Calgary.	6 bots.	60	The Welch Co., Ltd., St. Catherines.	.....
" 21	" ..	52889	" " " ..	3 "	75	E. D. Smith, Winona.	.....
" 22	" ..	52890	A. McDonald, 17th Ave., W., Calgary.	6 "	60	Puritan Food Products Co., Fredonia, N.Y.	.....
" 24	" ..	52891	E. W. Spencer, 1st St., W., Calgary.	3 "	1.65	Wagstaffe, Ltd., Hamilton.	.....

GRAPE JUICE.

Brand.	Results of Analysis.							No of Sample.	Remarks and Opinion of the Chief Analyst.
	Specific Gravity.		Alcohol % by volume.	Grammes per 100 c.c.			Milligrams Phosphoric Acid per 100 c.c.		
	Of Juice at 20° C.	Of distillate at 15·6° C.		Extract.	Invert Sugar.	Ash.			
Concluded.									
Marsh's	1·0620	1·0000	None.	16·07	12·72	0·228	24·0	79420	Genuine.
Dalton's	1·0679	0·9997	0·20	17·69	16·12	0·224	30·0	79421	"
Wagstaffe's..... ..	1·0826	0·9999	0·07	21·46	17·23	0·212	18·8	79429	"
J. B. COSGROVE, INSPECTOR.									
Red Wing	1·086	0·9999	0·07	22·36	19·59	0·216	20	79701	Genuine.
Niagara.....	1·054	0·9996	0·26	13·99	11·89	0·276	28	79702	"
Welch's.....	1·078	1·0000	None.	20·26	17·09	0 296	28	79603	"
E. D. Smith's.....	1·092	0·9999	0·07	23·93	20·57	0·276	30	79704	"
Marsh's.....	1·069	0·9999	0·07	17·90	15·43	0·180	18	79705	"
Top Notch.....	1·067	0·9999	0·07	17·38	13·49	0·292	35	79706	"
Libby's.....	1·061	0·9999	0·07	15·81	12·59	0·248	37	79707	"
L. H. HALL AND J. M. DANIS, INSPECTORS.									
Welch's.....	1·065	0·9999	0·07	16 86	14·05	0·224	25	83004	Genuine.
E. D. Smith	1·085	0·9999	0·07	22·09	19·27	0·252	32	83006	"
Red Wing	1·085	1·0000	None...	22·09	18·84	0·284	37	83007	"
"	1·085	1·0000	" ...	22·09	18·84	0·260	26	81811	"
Welch's	1·076	1·0000	" ...	19·73	16·88	0·272	25	81822	"
"	1·076	1·0000	" ...	19·73	16·62	0·264	28	81828	"
A. W. R. MARKLEY, INSPECTOR.									
Welch's. Cane sugar added.	1·076	1·0000	None...	19·73	16·36	0·284	29	52888	Genuine.
E. D. Smith's.....	1·089	0·9998	0·13	23·14	19·21	0·308	30	52889	"
Red Wing. Fruit and sugar only	1·080	0·9999	0·07	20·78	17·72	0·260	21	52890	"
Wagstaffe's.....	1 098	1·0000	None...	25·51	22·55	0·264	22	52891	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF ROCKY MOUNTAINS—							
1918.							
Jan. 21	Grape Juice ..	68563	A. S. Horswill & Co., Nelson.	3 bots.	1.05	Puritan Food Products Co., Fredonia, N.Y.	.....
" 21	" ..	68564	J. A. Irving & Co., Nelson.	3 "	1.20	The Welch Co., St. Catherines.	.....
" 21	" ..	68565	Hudson's Bay Co., Nelson.	3 "	1.05	Armour & Co., Chicago.	.....
Feb. 9	" ..	68566	Hudson's Bay Co., Kamloops.	3 "	1.05	Wagstaffe, Ltd., Hamilton.	.....
" 9	" ..	68567	G. S. McNabb, Kamloops.	3 "	1·95	The Marsh Grape Juice Co., Niagara Falls.	.....
DISTRICT OF VANCOUVER—							
Jan. 31	Grape Juice ..	76277	Independent Brewing Co., 65 Hastings St., E., Vancouver.	3 bots.	1.80	The Great Western Vineyards Co., California.	.....
Feb. 4	" ..	76278	Empire Brewing Co., Ltd., 333 Main St., Vancouver.	3 "	75	The Marsh Grape Juice Co., Niagara Falls.	.....
" 4	Grape Syrup..	76279	W. A. Urquhart, 54 Cordova, St. W., Vancouver.	3 "	75	The Randall Grape Juice Co., Jordan, Ont.	.....
" 4	Grape Juice ..	76280	Independent Brewing Co., 65 Hastings St., E., Vancouver.	3 "	90	Welch Co., Ltd., St. Catherines, Ont.	.....

GRAPE JUICE.

Brand.	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Specific Gravity.		Alcohol % by volume.	Grammes per 100 c.c.			Milligrams Phosphoric Acid per 100 c.c.		
	Of Juice at 20° C.	Of Distillate at 15·6° C.		Extract.	Invert Sugar.	Ash.			
THOS. PARKER, INSPECTOR.									
Red Wing	1·0857	0·9998	0·07	21·10	19·48	0·226	23·6	68563	Genuine.
Welch's	1·0716	0·9999	0·07	17·90	15·64	0·292	30·0	68564	"
Top Notch	1·0663	0·9997	0·20	16·83	14·90	0·260	35·2	68565	"
Wagstaffe's	1·1038	0·9998	0·13	25·10	24·68	0.270	19·0	68566	"
Marsh's	1·0794	0·9999	0·07	19·67	18·70	0·170	16·8	68567	Ash abnormally low, watered, doubtfuel.
G. G. ARMYTAGE, INSPECTOR.									
Calwa	1·0847	0·9990	0·66	21·17	19·56	0·385	54·0	76277	Genuine.
Marsh's	1·0823	0·9997	0·20	20·38	18·80	0·232	24·8	76278	"
Randall's Carbo-Grapo	1·1667	0·9999	0·07	38·10	40·70	0·346	58·8	76279	Sold as Grape Syrup.
Welch's	1·0679	0·9999	0·07	17·05	15·36	0·226	24·6	76280	Genuine.